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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/431,699	11/01/1999	CARL G. DEMARCKEN	09765/016001	9097

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _11/01/1999_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-24_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-24_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _11/01/1999_ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: .

DETAILED ACTION

Notice to Applicant

1.   This communication is in response to the application filed 01 November 1999.

Claims 1-24 are pending.

Claim Objections

2.   The numbering of claims is not in accordance with 37 CFR 1.126 which requires

the original numbering of the claims to be preserved throughout the prosecution. When

claims are canceled, the remaining claims must not be renumbered. When new claims

are presented, they must be numbered consecutively beginning with the number next

following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 21-25 been renumbered to 20-24.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they do not include the following reference sign(s) mentioned in the

description: "21c" on page 4, line 16. A proposed drawing correction or corrected

drawings are required in reply to the Office action to avoid abandonment of the

application. The objection to the drawings will not be held in abeyance.

4.   Figure 1 should be designated by a legend such as --Prior Art-- because only

that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction

or corrected drawings are required in reply to the Office action to avoid abandonment of

the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) do not apply to the examination of this application as the application

being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily

published under 35 U.S.C. 122(b). Therefore, this application is examined under 35

U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6.   Claims 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, and 22 are rejected under 35

U.S.C. 102(e) as being anticipated by DeMarcken (6,377,932).

(A)   As per claim 1, DeMarcken discloses a method for rules validation for a travel

planning system comprising:

reducing a larger set of travel options to a smaller set of diverse travel options. (DeMarcken; col. 48, lines 54-67 and fig. 18; the examiner interprets the "pricing graph" as "a larger set of travel options" and the "extracted pricing solutions" as a "smaller set of diverse travel options.")

(B)   As per claim 2, DeMarcken discloses generating one or more travel options consistent for each of a diversity of travel requirements (DeMarcken; col. 49, lines 31-58).

(C)   As per claim 3, DeMarcken discloses generating one or more desired travel options consistent with a diversity of travel requirements (DeMarcken; col. 49, lines 31-58)

(D)   As per claim 4, DeMarcken discloses generating one or more of the best travel options consistent with a diversity of travel requirements where the travel requirements are dependent on the original set of travel options (DeMarcken; col. 49, lines 42-58; it is respectfully, that criteria like "a value function can specify a minimum value of some value over the set of pricing solutions that involve a particular node" is a form of "travel requirements which are dependent on the original set of travel options.")

(E)   As per claim 5, DeMarcken discloses the set of travel requirements includes

requirements for different airlines (DeMarcken; col. 49, lines 53-58).

(F)   As per claim 6, DeMarcken discloses the set of travel requirements includes
requirements for travel times of day, travel dates class (DeMarcken; col. 59, lines 29-46
and fig, 22; the examiner understands the itinerary to comprise of both times of day and
travel dates), numbers of stops class (DeMarcken; col. 58, lines 60-63), arrival or
departure airports class (DeMarcken; col. 59, lines 5-7), and cabin class (DeMarcken;
col. 59, lines 2-4).

(G)   As per claim 7, DeMarcken discloses the set of travel requirements includes
requirements that are combinations of other requirements (DeMarcken; col. 49, lines
53-58; the examiner interprets applying the requirements to a subset of the pricing
graph, therefore applying multiple requirements to the original pricing graph, as a form
of "requirements that are combinations of other requirements.").

(H)   As per claim 8, DeMarcken discloses the set of travel requirement combinations
include outbound and return travel dates or times of day (DeMarcken; col. 60, lines 6-
15).

(I)   As per claim 9, DeMarcken discloses the set of travel requirement combinations
include airlines and number of stops, arrival and departure airports (DeMarcken; col. 58,
lines 60-63 and col. 60, lines 16-24).

(J)   As per claim 10, DeMarcken discloses generating one or more travel options that

are best for each of a set of travel preference functions (DeMarcken; col. 49, lines 42-

67).

(K)   As per claim 11, DeMarcken discloses the travel preference functions include

functions that optimize cost or functions that optimize convenience (DeMarcken; col. 49,

lines 42-67).

(L)   As per claim 12, DeMarcken discloses the travel preference functions include

both functions that optimize cost and functions that optimize convenience and functions

that optimize combinations of cost and convenience (DeMarcken; col. 49, lines 42-67).

(M)   Claim 21 is the corresponding system claim to method claim 1 and therefore is

rejected for the same reasons given above in the rejection of claim 1 and incorporated

herein

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 13, 14,15, 16, 17, 18, 19, 20, 22, 23, and 24 are rejected under 35

U.S.C. 103(a) as being unpatentable over DeMarcken et al (6,377,932) in view of

Webber et al. (5, 331, 546).

(A)   As per claim 13, DeMarcken teaches sorting the list of travel options Ts by an

ordering function F to produce a best-first ordered list Ts2 with the list of options being

optimized travel options for a set of travel requirements R in accordance with the

ordering function F (DeMarcken; col. 49, lines 59-67).

However, DeMarcken fails to expressly teach generating a prioritized ordered list

of requirements but does teach applying the requirements in a specific order

(DeMarcken; col. 49, lines 41-42). However, this feature is old and well known in the

art, as evidenced by Webber's teachings with regards to generating a prioritized

ordered list of requirements to be applied to a set of travel options (Webber; fig. 4A; the

examiner interprets requirements like items 60, 62, and 66 in fig. 4A as a "prioritized list

of requirements."). It is respectfully submitted, that it would have been obvious, to one

having ordinary skill in the art at the time the invention was made, to expand the system

taught by DeMarcken with Webber's teaching with regard to generating a prioritized list

of requirements, with the motivation of taking into account details of a preset corporate

travel policy, as well as individual travel preferences, such as the trade-offs between

ticket prices and travel time (Webber; col. 2, lines 36-41).

(B)   As per claim 14, DeMarcken fails to expressly disclose initializing the list of result

travel options RTs to be empty; and if the remaining list of requirements Rs is empty,

returning an ordered list of diverse travel options Rts. However, this feature is old and

well known in the art, as evidenced by Webber's teachings with regards to initializing

the list of result travel options RTs to be empty; and if the remaining list of requirements

Rs is empty, returning an ordered list of diverse travel options Rts (Webber; col. 8, lines

35-50, fig. 6A, and fig. 6B; it is respectfully submitted, that if the resulting travel options

list is empty after testing a requirement, then the list of result travel options has been

initialized to be empty; the examiner interprets "save as one of the six best preference

itineraries," item 234 of fig. 6A, as occurring after determining that the "remaining list of

requirements is empty" and interprets "sort the selected itineraries by departure time

and display them and their best fares to the travel arranger" as "returning an ordered

list of diverse travel options."). It is respectfully submitted, that it would have been

obvious, to one having ordinary skill in the art at the time the invention was made, to

expand the system taught by DeMarcken with Webber's teachings with regards to

initializing the list of result travel options RTs to be empty; and if the remaining list of

requirements Rs is empty, returning an ordered list of diverse travel options Rts, with

the motivation of rapidly sifting through what may be thousands of currently available

flights, fares and rules for a given trip and to find the lowest fare for which the particular

traveler and trip qualify and for which seats are available (Webber; col. 4, lines 25-34).

(C)   As per claim 15, the collective system of DeMarcken and Webber teach

initializing the list of result travel options RTs to be empty as shown above in the

rejection of claim 14, and therefore incorporated herein. The combined system of

DeMarcken and Webber, collectively also teach if the remaining list of requirements Rs

is not empty, selecting a first travel requirement R from the ordered list of requirements

(Rs) (Webber; fig. 6A; the examiner interprets selecting requirements, like items 226

and 228 of fig. 6A, as "selecting a first travel requirement from the ordered list of

requirements if the remaining list of requirement is not empty.")

However, the combined system of DeMarcken and Webber, collectively fail to

teach removing a requirement R from the requirement list (Rs). It is respectfully

submitted, that it would have been obvious, to one having ordinary skill in the art at the

time the invention was made, to expand the collective system taught by DeMarcken and

Webber to remove the requirement from the list, with the motivation ensuring a

particular requirement is not applied multiple times.

(D)   As per claims 16 and 17, DeMarcken fails to expressly disclose finding a first

option T in a best-first ordered list (Ts2) that satisfies travel requirement R and

determining whether any option in the Ts2 satisfies the travel requirement. However,

this feature is old and well known in the art, as evidenced by Webber's teachings with

regards to finding a first option T in a best-first ordered list (Ts2) that satisfies travel

requirement R and determining whether any option in the Ts2 satisfies the travel

requirement (Webber; fig. 2; the examiner interprets "select itineraries with available

seats and lowest valid fares" as "finding a first option that satisfies travel requirements"

and interprets "select only confirming itineraries" as "determining whether an options satisfies travel requirement.") It is respectfully submitted, that it would have been obvious, to one having ordinary skill in the art at the time the invention was made, to expand the system taught by DeMarcken with Webber's teachings with regards to finding a first option T in a best-first ordered list (Ts2) that satisfies travel requirement R and determining whether any option in the Ts2 satisfies the travel requirement, with the motivation of rapidly sifting through what may be thousands of currently available flights, fares and rules for a given trip and to find the lowest fare for which the particular traveler and trip qualify and for which seats are available (Webber; col. 4, lines 25-34).

(E)   As per claim 18, DeMarcken fails to expressly disclose if no option in Ts2 satisfies R, the method further comprises: checking if the remaining list of requirements Rs is empty. However, this feature is old and well known in the art, as evidenced by Webber's teachings with regards to checking if the remaining list of requirements Rs is empty if no option in Ts2 satisfies R (Webber; col. 8, lines 25-40). It is respectfully submitted, that it would have been obvious, to one having ordinary skill in the art at the time the invention was made, to expand the system taught by DeMarcken with Webber's teachings with regards to checking if the remaining list of requirements Rs is empty if no option in Ts2 satisfies R, with the motivation of rapidly sifting through what may be thousands of currently available flights, fares and rules for a given trip and to find the lowest fare for which the particular traveler and trip qualify and for which seats are available (Webber; col. 4, lines 25-34).

(F)   As per claim 19, the collective system of DeMarcken and Webber teach

determining if the size of the travel option list RTs is equal to or greater than N the

process in order to return the ordered list of diverse travel options (Webber; col. 15,

lines 7-17).

However, the combined system of DeMarcken and Webber collectively fail to

teach after determining if a travel option T is not already in the result list Rts, adding the

travel option T to end of the result travel option list Rts. It is respectfully submitted, that

it would have been obvious, to one having ordinary skill in the art at the time the

invention was made, to expand the collective system taught by DeMarcken and Webber

to determine if a travel option T is not already in the result list Rts and adding the travel

option T to end of the result travel option list Rts, with the motivation ensuring a

particular travel option does not show up multiple times in the travel option result list.

(G)   As per claim 20, the combined system of DeMarcken and Webber, collectively

fail to teach determining for each travel requirement R2 in Rs, whether the requirement

R2 includes a requirement R, and T satisfies R2, and if T satisfies R2; removing R2

from Rs. It is respectfully submitted, that it would have been obvious, to one having

ordinary skill in the art at the time the invention was made, to expand the collective

system taught by DeMarcken and Webber to determine for each travel requirement R2

in Rs, whether the requirement R2 includes a requirement R, and T satisfies R2, and if

T satisfies R2; removing R2 from Rs, with the motivation improving the speed of the

system by by-passing the application of a requirement that is a subset of an already
applied requirement.

(H)   Claims 22-24 are the corresponding system claims to method claims 13-15 and
therefore are rejected for the same reasons given above in the rejections of claims 13-
15 and incorporated herein.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to
applicant's disclosure. The cited but not applied art teaches a computer reservation
system with means to rank travel itineraries chosen in terms of schedule/fare data
(4,862,357); an automatic travel service management information system (5,832,451);
and a self-service system for selling travel-related services or products (5,732,398).

10.   Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Milan S Kapadia whose telephone number is 703-305-
3887. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to
5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, Joseph Thomas can be reached on 703-305-9588. The fax phone
numbers for the organization where this application or proceeding is assigned are 703-

746-7238 for regular communications and 703-746-7239 for After Final

communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-305-

3900.

mk
May 3, 2002

JOSEPH THOMAS
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